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INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

COUNTRY

USSR [Estonia]

SUBJECT

Engineering Course at Technical
University of Tallinn

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SUPPLEMENT TO REPORT #

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THIS IS UNEVALUATED INFORMATION

1. The Technical University of Tallinn was established from the old Technicum in 1934. The college of engineering was composed of three departments for graduate work and research in major branches of engineering. The program for engineering studies was as follows:

- a. Basic Science, including mathematics, physics, chemistry and technical drawing.
- b. Engineering Science, including mechanics, strength of materials, geology, geodesy, properties of materials, thermodynamics, electrical theory and related subjects.
- c. Applied Technology, including structural design, water supply, machine design, materials processing, plant layout, chemical plant operations, power steam and power generation, layout of streets and railways, layout of airports, and layout of shipyards.

All students enrolled in Civil Engineering, Mechanical Engineering or Chemical Engineering.

2. In the laboratory the best and latest equipment for chemical and mechanical research was available to students. The laboratory was equipped with two universal testing machines of approximately 300 thousand kg and 100 thousand kg capacity. Additional equipment included electrical testing machines and instruments for geodesy, such as theodolites and nivelliers [levelling instrument], and many other kinds of special equipment.
3. Students who completed gymnasium or technical preparatory school were required to take entrance exams prepared by the Ministry of Education and university professors, prior to entering the Technical University of Tallinn. These exams were necessary because the number of students who wanted to study at the university was three times the number that could be accommodated. The exams were prepared in such a manner that the students had to pass the minimum number of tests in literature, mathematics and physics. Examinations were in three parts, oral, written and demonstrative projects. This resulted in some very fine students and brought about a great change as formerly, unqualified students could attend the university for a lengthy period merely because they possessed the necessary funds. Generally speaking, the majority of students were sincere and tried to abide by the requirements of the entire program.

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4. The length of the course was 4 1/2 years. Tuition for one semester prior to 1934 was 65 kronen. This was increased later to 75 kronen and during the Soviet occupation in 1941 reached 120 kronen. The tuition compared favorably with that in other European countries. Only after the basic exams were passed and practice work was found satisfactory during the first and second school years, were students permitted to enter into special fields for the third and subsequent years. The special fields were chemical, mining, and mechanical engineering, mining machinery construction, construction engineering, and turbine engineering.
5. Many of the top grade students were given scholarships which generally was adequate to cover room, board and tuition. The relationship between students and professors was excellent. The professors often belonged to student clubs and fraternities.
6. There was always a shortage of Estonian textbooks. The only textbooks available were in chemistry, physics and basic science. In 1944 the professors and lecturers were forced to prepare their own text books in mimeograph form. Textbooks for special subjects were non-existent. Consequently students had to attend all lectures and take copious notes. In most cases this was insufficient. Most students were required to study three foreign languages usually English, German and Russian as textbooks were available for these.
7. During the first and second semesters of the first school year there were as many as three hundred students in one class. Lectures were given in a large auditorium. During the third and fourth semesters the classes were smaller by possibly one hundred students. During the fifth semester and ensuing summer, the number of students decreased to 20 or 30. In the engineering field senior students assisted the professors during examination periods for which they were paid 50 to 80 kronen per month.
8. The number of lectures during the first and second semesters was up to 38 class periods per week. The school work was six days a week. Each student also had to do 10 hours or more of practical work. Practical work was closely connected to the lectures and had to be done at the technical university laboratories. Each engineering student had his own drafting table for practical studies.
9. The chemical laboratory was divided into several sections which in turn were divided into small laboratories, one for each two students. With the exception of pencils, pens and notebooks, all raw materials were furnished the chemical engineering students for the practical work.
10. Until 1941 the Estonian government invested large funds to raise the level of higher education at all universities and technical institutions. The government also sent scientists to Germany, UK, Sweden and the US to broaden their knowledge. During the Soviet occupation of Estonia, university professors were sent to Moscow, Kiev, and Leningrad for scientific studies.
11. Each semester, students were required to take mid-term exams. These exams were divided into three parts:
 - a. 8-10 class tests, written and practical work
 - b. Written exams
 - c. Oral exams

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In order to pass into the next semester a student was required to maintain at least a B grade average. For example the grades were made up in the following manner:

- | | | |
|----|--|-----|
| a. | Average of class tests throughout the semester | 84% |
| b. | Written exams | 96% |
| c. | Oral exams | 81% |

The three percentages were averaged for a single grade. In this example the 87% would have been a very good grade.

12. During the summer season the students were obliged to do practical work in the following fields: construction, machine building, factory layout, railroad building, road construction, electric power, special construction, chemical factory operation, shipbuilding, glass plants. These tasks were allocated to each student for which he received payment. Students who expected to graduate from one of the engineering courses were required to accumulate six months of practical work. This could be split into three or four week periods and could be in three or four fields for the final examination. A scientific paper was also required.
13. During the Estonian Republic's regime there were no political subjects, taught at the Technical University of Tallinn. During the Soviet occupations several scientific subjects were replaced by lectures on Communist Ideology and Marxism. During the German occupation the University returned to its full schedule but only students who were in the senior year were eligible to attend.

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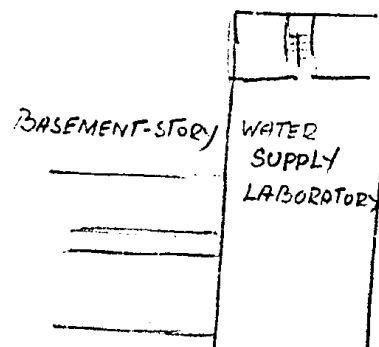
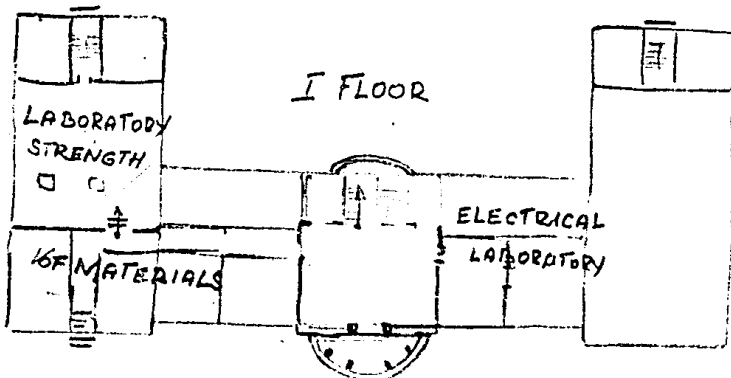
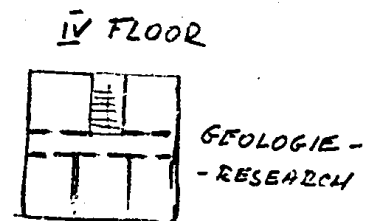
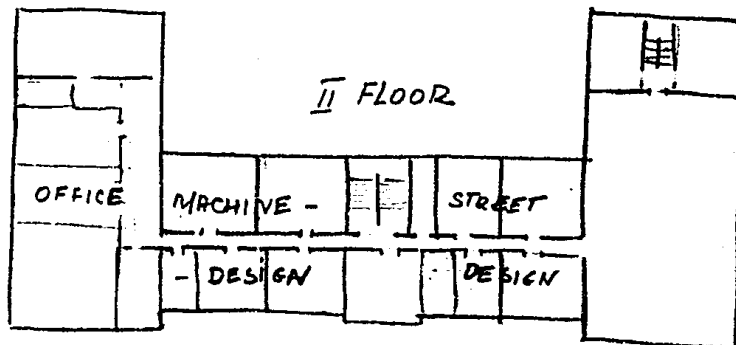
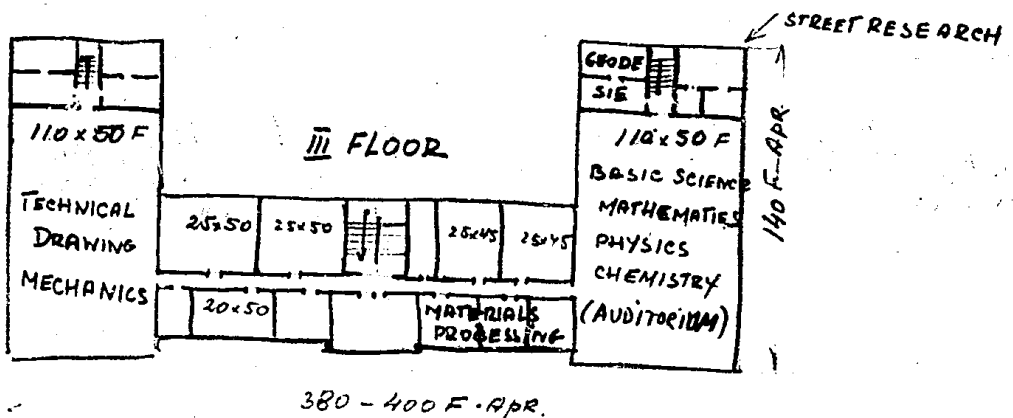
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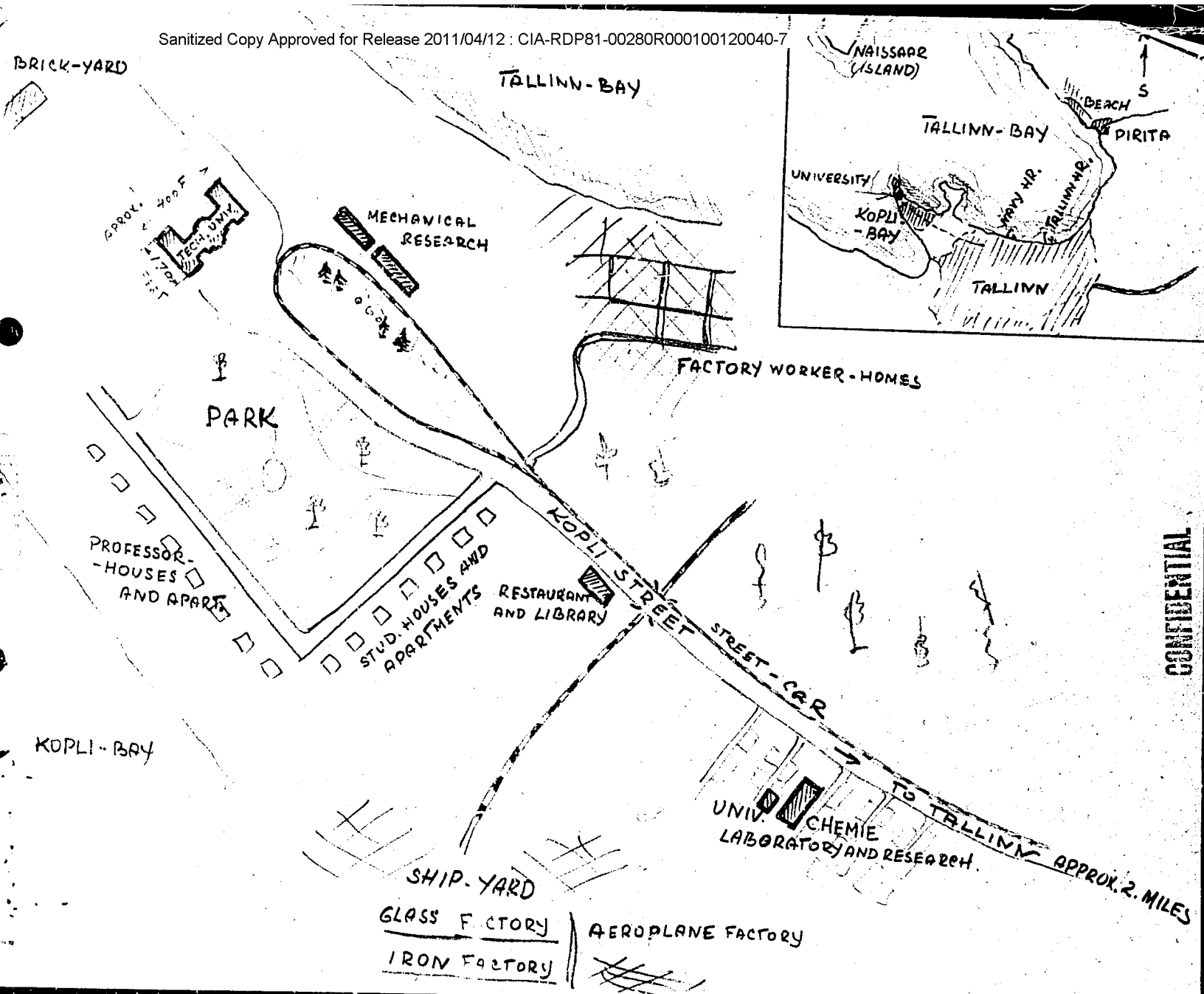
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